

CLAIMS

We claim:

1. A computer-implemented method for determining a color matched repair paint formula, said computer-implemented method comprising:
 - 5 a) identifying the color characteristics of a target color to be matched;
 - b) inputting and processing said target color characteristics to enable a visual display of said target color;
 - c) selecting from a color database, an alternate color, or a plurality
10 of alternate colors, said selection made based upon color characteristics of said target color to be matched;
 - d) processing and visually displaying said alternate color, or plurality of alternate colors, to enable comparison with said target color; and
 - 15 e) selecting a desired alternate color and determining the formulation thereof.
2. The method of claim 1 which further comprises displaying the target color superimposed over an image of a vehicle to be repaired.
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3. The method of claim 2 which further comprises displaying an alternate color formulation superimposed over the target color of claim 2, in the area of the vehicle to be repaired.
- 25 4. The method of claim 3 which further comprises selecting a desired alternate color and determining the formulation thereof based upon displaying said alternate color formulation in the area of the vehicle to be repaired.
- 30 5. The method of claim 1 wherein said selecting from a color database, an alternate color, or a plurality of alternate colors, is further made on the basis of metamerism, or metamerism index.

6. A computer-implemented method for determining a color matched repair paint formula, said computer-implemented method comprising:

- a) identifying the flake appearance and color characteristics of a target color to be matched;
- 5 b) inputting and processing said target color characteristics to enable a visual display of said target color;
- c) selecting from a color database, an alternate color, or a plurality of alternate colors, said selection made based upon color characteristics of said target color to be matched;
- 10 d) processing and visually displaying said alternate color, or plurality of alternate colors, to enable comparison with said target color;
- e) visually displaying flake appearance options for said alternate color, or plurality of alternate colors; and
- 15 f) selecting a desired alternate color and determining the formulation thereof.

7. The method of claim 6 which further comprises displaying the target color superimposed over an image of a vehicle to be repaired.

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8. The method of claim 7 which further comprises displaying an alternate color formulation superimposed over the target color of claim 2, in the area of the vehicle to be repaired.

25 9. The method of claim 8 which further comprises selecting a desired alternate color and determining the formulation thereof based upon displaying said alternate color formulation in the area of the vehicle to be repaired.

30 10. The method of claim 6 wherein said alternate color, or plurality of alternate colors, are superimposed over said appearance options.

11. The method of claim 10 wherein said selecting from a color database, an alternate color, or a plurality of alternate colors, is further made on the basis of metamerism, or metamerism index.

5 12. The methods of claim 1 or claim 6 wherein said color characteristics are identified by measurement with a multi-angle spectrophotometer at a plurality of viewing angles.

10 13. The methods of claim 1 or claim 6 wherein said target color, said alternate color, or said plurality of alternate colors, are, either individually or severally, visually displayed in several virtual chips.

15 14. The methods of claim 1 or claim 6 wherein said target color, said alternate color, or said plurality of alternate colors, are, either individually or severally, visually displayed in several virtual chips, wherein each color is segmented into virtual chips simultaneously displaying different viewing angles.

20 15. The methods of claim 1 or claim 6 wherein said target color, said alternate color, or said plurality of alternate colors, are, either individually or severally, visually displayed in several virtual chips, wherein each virtual chip visually simulates a curved panel simultaneously displaying several viewing angles.

25 16. The use of the methods of claim 1 or claim 6 to determine a painting materials and labor estimated cost.